IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (original) A method for synchronizing clocks of network terminals in a network, comprising:

selecting a clock of one of said network terminals to be a master clock;

determining a respective round trip delay time from said network terminal having said master clock to each of said other terminals;

offsetting the clock of each of said other terminals by an amount proportional to the respective determined round trip delay time such that said network terminal having said master clock and each of said other terminals have substantially the same point of reference in time; and

in response to at least one trigger signal, determining a respective offset between the master clock and the clocks of each of said other terminals and offsetting the clocks of each of said other terminals by an amount proportional to said determined respective offset to synchronize the clocks of each of said other terminals to said master clock.

2. (original) The method of claim 1, wherein said selected network terminal comprises a master terminal.

3. (original) The method of claim 1, wherein said other network terminals comprise slave terminals.

4. (original) The method of claim 1, wherein said determining a respective round trip delay time, comprises:

transmitting a respective data packet from said terminal including the master clock to each of said other terminals; and

determining, from respective data packets received from each of said other terminals in response to said transmitted respective data packets, a respective amount of time for data packets to be transmitted to and received from each of said other terminals.

5. (original) The method of claim 1, wherein said respective offset for each of the other terminals is determined comprising:

in response to a synchronization signal, counting a predetermined number of clock pulses of said master clock;

counting clock pulses of the clocks of said other terminals for a period of time equal to the amount of time for counting said predetermined number of clock pulses of said master clock and beginning at a point in time of said synchronization signal; and

comparing the phase and frequency of the counted clock pulses of each of the other terminals to the clock pulses of said master terminal to determine a respective offset.

6. (original) The method of claim 1, wherein each of said other terminals respectively triggers the synchronization of its respective clock to the master clock.

7. (original) A network for synchronizing clocks of network terminals in said network, comprising:

a synchronization device for providing a timing signal;

a master terminal, including:

a master clock for providing timing information for said master terminal;

a master network interface controller for transmitting data from and receiving data for said master terminal; and

a master control unit for determining synchronization parameters;

a plurality of slave terminals, each of said slave terminals including:

a slave-clock for providing timing information for said slave terminal;

a slave controller for making adjustments to said slave-clock in response to a control signal indicative of a difference between said master clock and said slave-clock; and

a slave network interface controller for transmitting data from and receiving data for said slave terminal;

and

a non-blocking switch for interconnecting said master terminal and said plurality of slave terminals;

wherein said master control unit comprises a memory and a processor and is adapted to perform a method comprising:

determining a respective round trip delay time for each of said plurality of slave terminals;

communicating a control signal to respective slave controllers of the plurality of slave terminals for offsetting the slave-clock of each of said slave terminals by an amount proportional to the respective determined round trip delay time such that said master terminal and each of said slave terminals have substantially the same point of reference in time;

determining a respective offset between the master clock and a respective slave-clock of each of said slave terminals in response to information received from each of said slave terminals regarding a status of the respective slave-clocks; and

offsetting a respective slave-clock of each of said slave terminals by an amount proportional to said determined respective offset to synchronize the slave-clock of each of said slave terminals to the master clock of said master terminal.

8. (original) The network of claim 7, wherein each of said network interface controllers comprises:

a counting device for generating a signal in response to counting a predetermined number of counts;

a transmit trigger generator for receiving the signal from said counter and, in response, generating a transmit trigger signal;

a transmit memory device, for storing data to be transmitted;

a transmit memory manager for receiving the transmit trigger signal from said transmit trigger generator and, in response, directing at least a portion of said data stored in said memory device to a transmission device for transmission of said data;

a receive trigger generator for receiving the signal from said counter and, in response, generating a receive trigger signal;

a receive memory device, for storing received data; and

a receive memory manager for receiving the receive trigger signal from said receive trigger generator and, in response, directing received data to a location within said receive memory device.

9. (original) The network of claim 8, wherein each of said counting devices begins counting from a predetermined count number in response to a timing signal from said synchronization device.

10. (original) The network of claim 7, wherein said synchronization device generates a time frame for the synchronization of the respective slave-clocks of said plurality of slave terminals to the master clock of said master terminal.

11. (original) The network of claim 7, wherein said master terminal transmits a data packet having a Sync header and a timing signal to each of said plurality of slave terminals to cause each of said slave terminals to transmit information regarding a status of their respective slave-clocks to the master terminal.